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ABSTRACT

Higher literacy needs and global communication technologies such as the Internet require that students worldwide develop academic level mastery of international languages. However, while school and university second language programs are frequently able to help students achieve mastery of the basic interpersonal communications skill level of a language, few university second-language programs produce a high level of mastery of the cognitive-academic language processing level. Preliminary studies using WebCT Internet technology have shown how student-initiated interactive second language communication may be used to supplement more traditional approaches, and, in particular, the effectiveness of university-level immersion English as a Second Language (ESL) courses in which students learn academic course content through ESL. In these studies, students actively negotiated the meaning of extensive resources and readings in a second language on asynchronous electronic bulletin boards whenever they were interested. This student-centered approach appears promising, based on results from a detailed discourse analysis of the students' communications on the bulletin boards, as well as from reading comprehension and writing production tests. In addition, extensive formative and summative interviews of the students' attitudes towards reading and discussing course content on the electronic bulletin boards for second-language acquisition yielded positive results. Ongoing research with real-audio and visual modalities is promising. (Contains 18 references.) (KC)

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Crossroads of the New Millennium

Using Technology To Foster Authentic Communication For Second Language Students

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Seminar

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Abstract

Higher literacy needs and global communication technologies such as the internet are requiring that students world-wide develop academic level mastery of international languages such as English and French in order to compete globally in economic, academic or government professions. However, whereas school and university second language programmes are frequently able to produce a Basic Interpersonal Communications Skill level of mastery of second languages, there are few university second language programmes that consistently produce a high level of mastery of Cognitive-Academic Language Processing and in a second language. Existing second

Language programmes frequently lack the sustained concentration of interactive time dedicated to negotiation of meaning in the second language to make academic levels of mastery a realistic expectation for the majority of university students. Too frequently, existing programmes, due to limited resource allocation, are rather more passive than active with few hours per week in which the students can interact on topics of mutual interest. Recently, preliminary studies using WebCT internet technology have shown how student-initiated interactive second language communication may be used to supplement more traditional approaches, and in particular, the effectiveness of university level immersion ESL courses where students learn academic course content through ESL, (see Carey and Crittenden, 1997; 1999; Carey, 1998; 1999. In these studies, university students actively negotiated the meaning of extensive resources and readings in a second language on asynchronous electronic bulletin boards whenever they had interest at home or university. This student centred approach appears promising based on results from a detailed discourse analysis of the students communications on the bulletin boards as well as from reading comprehension and writing production tests. In addition, extensive formative and summative interviews of the students use and attitude towards reading and discussing course content on the electronic bulletin boards for second language acquisition yielded positive results of how the WebCT bulletin board facilitated SLA. Ongoing research with real-audio and visual modalities is very promising.

Using Technology to Foster Authentic Communication for Second Language Students

As the United Arab Emirates enters the millennium, the UAE Ministry of Education is placing a new emphasis on increasing the exposure of UAE students to ESL in elementary, secondary and university education. This increased emphasis comes from a realisation that English literacy is increasingly mandatory in a global world and a realisation that existing UAE ESL instruction programmes are inadequate to produce the necessary academic literacy and oral fluency. The limited success of ESL in UAE schools echoes similar results for ESL elsewhere in the Middle East and Asia and mirrors many other foreign language programmes around the world.

In general, traditional foreign and second language ESL programmes are not effective in producing academic literacy and oral fluency because in typical ESL language programmes there is inadequate exposure to the foreign language and because there is very limited opportunity to use ESL outside the classroom in mid-east and Asian settings. We have known for many decades that it takes about 5,000 hours of instruction in a second language to produce adequate fluency and literacy in that foreign language, Stern (1983) and typical foreign language programmes offer far less than this minimum exposure to the language.

In order to get a general idea of what results can be obtained from different types of foreign or second language programmes, I will examine 4 of my own research projects on different second language situations and gauge the effectiveness of these approaches in terms of their results in producing academic literacy and oral fluency. From the results of these research projects a model may be constructed that would promote ESL in UAE.

A LONGITUDINAL STUDY OF FRENCH IMMERSION IN CANADA

The first research project will be a study of French immersion programmes in Western Canada. These widely celebrated second language programmes initially involve almost exclusive elementary schooling using the second/foreign language as the language of instruction. In the first implementation of these programmes Lambert, Tucker and d'Anglejan

(1974) anglophone children received their instruction almost exclusively through the second language of French for the first 3 years and then gradually an increasing number of different school subjects were taught in their native language of English and a decreasing number were taught in their second language of French from grades 4 to 12 in order to promote bilinguality. These immersion programmes have been very successful in producing a functional level of French fluency and literacy. However, the level of reading and listening comprehension of input and the level of speech and written output of these students does not generally approximate their English reading comprehension or speech, Carey, (1984: 1991; 1997). In a series of replicated research which involved large scale province wide sampling in Western Canadian provinces, I found that although students were schooled in given disciplines in French, their capacity to write the final exams in these subjects was much higher if they were permitted to write these final exams in English (even when they were true-false or multiple choice) in spite of the fact that the entire course had been taught in French and students anticipated a French final exam, Carey, (1991). Simply stated while these students acquired a functional level of oral fluency and reading comprehension, and to a lesser extent writing proficiency, their level of performance in reading, writing, speaking and listening on average never attained a level comparable to their home language even after 8, 10 or 12 years of immersion schooling. In some ways this is not surprising because the language remains a school-based language and these students seldom use this language outside the school Carey, (1984; 1991) even when presented with opportunities to use this second language.

A STUDY OF HIGHLY SUCCESSFUL FRENCH IMMERSION STUDENTS.

There are however very high achievers in immersion programmes who are gifted language learners, who enjoy practicing their second language whenever possible, and who supplement their classroom assignments with a variety of additional exposures to the second language. In addition to taking the initiative to use their French wherever possible and to exploit any opportunity to use and study the language locally, some French immersion students take advantage of excursions to French speaking areas which may vary from a few days to several weeks to year abroad programmes. In such cases high degrees of competence may be attained in reading and listening comprehension as well as spoken and written production. Typically, students find these sojourns extremely productive in improving their second language skills. However, we must realise that these levels of French achievement are not directly attributable

to the immersion schooling programme per se and may have been largely attained without any participation or exposure to the second language immersion programme at school. Simply stated, these highly competent individuals may have attained most or all of their facility from these diverse experiences outside school. Nevertheless, it is these exemplary individuals who are most frequently put on display at events such as "concours oratoire" as examples of what can be achieved by immersion programmes. Clearly, such experiences as exchange and year abroad programmes provide tremendous opportunities for students to actively engage in communicating in the second language but it is inaccurate to then claim that the gains made are a result of the direct immersion schooling programme. In fact, informal comparisons between core French students who spent a year abroad appeared to be indistinguishable from students with immersion backgrounds and in many cases were actually superior, Netten, (1999). In either case however, we must recognise the important and real gains that students can make if they voluntarily initiate and actively engage in interactive communication in the second language either locally or abroad. However, even in such situations, expected gains must be realistic and the nature of the interaction is critical to the obtained results. In particular, students must take the initiative to be active communicators who willingly engage in language interaction to maximally benefit from exchange and year abroad programmes. However, even under the most ideal situations some students somehow manage to avoid all opportunities and make even a little progress.

A LONGITUDINAL STUDY OF THE EFFECTS OF AN ACADEMIC YEAR ABROAD ESL IMMERSION PROGRAMME FOR JAPANESE STUDENTS

The individual motivation for engaging in communication in a second language is an essential yet complex issue but we can gain insights into its importance by examining the progress made by different cultures and by a comparison of gender across cultures in an ESL immersion programme. In an ongoing analysis of a year abroad ESL immersion programme for Japanese second year undergraduate's students at UBC, we have performed a comprehensive study of their development and acquisition of ESL/acculturation as well as their identity and globalisation transformations during the year abroad experience. We have also researched the subsequent retention of these changes for 7 years following this year abroad. Some of the most insightful findings from this comprehensive study of the largest year abroad ESL/acculturation programme that we know of derive from cultural and gender comparisons.

CULTURAL COMPARISONS

It is accepted doctrine of stereotype that Japanese students tend to be more group minded than North American students and that Japanese students of ESL are less likely than Western Europeans to initiate conversations and seek out foreigners and engage them in conversation in their attempts to master ESL, Bailey, (1999). Japanese ESL students are often stereotypically characterised as shy, conforming and reticent when contrasted with North American students (Bailey, 1999). Consequently, assuming that social interaction is critical to second language acquisition, one might suppose that as a gross generalisation that Japanese students would be less likely to show ESL improvement from a year abroad programme than would students from Europe. However, such generalisations must bear in mind that there are often not only greater cultural differences between Japanese and Canadian cultural groups than between Western Europeans culture and Canadian culture groups but equally important and related linguistic differences that are also greater between Asian languages and European languages and English. Consequently, at universities such as UBC one can frequently observe Japanese students interacting linguistically and socially in English with other Asian students more frequently than with Canadians. Apparently, the commonalties of culture among the Asian students permits them to converse in English more easily than with native English speakers. Therefore, when we assess how much improvement in ESL occurs among Japanese students in a year abroad programme in Canada we might in general not expect there to be the same gains as would be expected by European students. Furthermore, we might hypothesize that Japanese students are more challenged with learning a language from a different language family as well as acculturation to a very different culture and that these Japanese students would not make as rapid gains as would European students who have a more common first language and culture from which to transfer both their language and cultural skills. Therefore, we must be realistic in terms of the improvement expected by Japanese students in a year abroad programme.

Therefore in this study we chose to use the TOEFL test to see if there were any discernible measures of improvement in the Japanese students ESL scores based on a comparison of their scores prior to and immediately after the 9 month programme, Crittenden, (1996). We also sought to make pre and post comparisons between the students performance on the oral,

written and reading comprehension tests for each of the 100 member cohorts over several successive years and then to follow the retention of their ESL characteristics and to follow their acculturation and globalisation changes over several years after returning to Japan.

While room does not permit a detailed discussion of all the statistical results, it is important to note that these 100 member yearly cohorts consistently showed statistically significant improvement in their ESL as measured by TOEFL as well as by Oral Proficiency Inventories (OPI), tests of written English (TWE) and written Cloze tests, (Crittenden 1996; Carey and Crittenden 1997). Moreover, the degree of improvement in the TOEFL as well as the Oral Proficiency tests was greater for those students who originally scored in the lowest quartile of the incoming cohort. Not surprisingly, a detailed analysis of the English language history of these low scoring students showed that generally they had fewer hours of prior ESL, less exposure to English usage at home, had traveled less to English speaking countries and were less likely to be exposed to English speaking relatives.

Consistent with the above, the highest scoring incoming quartile of students did not show highly significant gains as a result of the 9 month year abroad programme. A further detailed analysis of the ESL histories of the highest ESL scorers of incoming Japanese students revealed that the high achieving quartile had a much greater previous experience with English including a higher probability of exposure to ESL in elementary school, English being spoken in the home, a member of the family speaking English and travel to English speaking countries. Consequently, there is a very clear finding that the TESOL scores of incoming students are consistently related to the prior total experience with ESL within the school, the home and society. Since, the lowest scoring quartile of Japanese students had the largest improvement from the year abroad programme, the most likely account of these results is that the high ability group by being immersed with lower quartiles of ESL speakers had less of an opportunity to be exposed and to interact with colleagues from who they could acquire new vocabulary, idiom, metaphor and general literacy. This is an important finding in planning the activities of diverse second language programmes since it appears that unless highly enriched language environments are provided there is always the possibility of ESL acquisition attaining a plateau from which it is difficult to rise further unless students are provided with further enriching language experiences that are appropriate to their individual level. In the case

of the upper quartile this would mean enhanced experience with native speakers within the programme, across campus and in the city. Clearly, sustained exposure to ESL in school, home and society are required for high levels of TOEFL, OPI and WPI.

In the 7 year follow-up of these Japanese students we also found evidence that the retention of their English skills, acculturation and globalisation measures were also directly correlated with their opportunities to use their English in the home, in their careers and in their social life. Again, it is the totality of the cumulative experience of using English in diverse settings that is important in second language retention as Fishman (1966) has previously noted.

FSL CORE PROGRAMMES

A related example of attaining a plateau is found in FSL or extended FSL programmes for Anglophones in Canada. Too often, FSL students will acquire a sufficient level of FSL for essential oral and written communication at school and their level of mastery of FSL will not move beyond that level. This is particularly true where FSL students are exposed to other FSL students who have not had a rich background in French.

MINORITY FRANCOPHONE SCHOOL PROGRAMMES

A related phenomenon has also been found for minority Francophones in Canada who find that schooling in French is insufficient to ensure adequate exposure and usage of the language to promote high levels of academic competence. Having won the court battles for exclusive francophone schools, these minority groups find these schools by themselves are insufficient for producing high levels of French academic competence. Consequently, minority Francophones have argued successfully for the necessity of having French cultural centres to stimulate French as the language of the home, the school and the society, Landry, Allard and Theberge (1991) in order to make mastery and preservation of the language possible. Consequently, minority francophones outside Quebec strive to make Francophone enclaves which include schools, business centres, restaurants and cultural centres in order to give French a full and varied usage in all walks of life.

Quebec takes this argument to the extreme in resisting the encroaching use of English because it perceives that English threatens the usage of French. Thus Quebec maintains its provincial

unilingual French status in order to resist the use of English in a bilingual Canada. The Quebec Separatist provincial government proposes that Quebec separate from Canada to preserve its language and culture from the inroads of English that surrounds it and threatens to envelop it.

The common thread that runs through all four of these SLA and minority language research domains is that it takes a high concentration of varied usage of a second language in a variety of communicative contexts that include school, home and society in order to master that second or minority language. This point was made by Fishman (1966), yet this imperative appears to continually escape language planners for educational programmes due to the strength of other curricular demands. The truth of this statement is seen if one examines the limited success of ESL programmes in Japan, China, Taiwan, Korea and the Philippines or elsewhere in Southeast Asia. Consequently, we are left with the challenge as to how we can provide an ESL programme that will permit Asian students in general to master ESL to a sufficient degree to compete academically in the global educational, business and research domains, which are predominantly in English. The solution to this dilemma may be to supplement limited ESL class time with technology of online instruction and virtual year abroad programmes.

THE REALITY OF VIRTUAL REALITY AND AUTONOMOUS ESL INSTRUCTION ON THE INTERNET.

The SLA imperative is that ESL students need exposure to principles of interaction that embrace both language socialisation and teaching language through content to achieve academic mastery of ESL. This assumes that students need to be motivated to socially engage in the negotiation of meaning in a second language about material that is of great interest to them and to engage in negotiation of meaning with a wide variety of speakers on a wide variety of topics for an extended period of time.

I have found that interactive electronic bulletin boards such as WebCT are effective due to their great capacity for promoting unlimited amounts of interactivity and interaction between students posting messages on this asynchronous electronic bulletin board using academic and enriched English that is beyond their present level of comprehension. To understand this

concept it is essential to realise that maximally efficient second language acquisition requires extended throughput which entails re-iterative intakes from the available input message and the extended negotiation and interpretation of these intakes to determine the interpretation that most closely approximates (both semantically and syntactically) its contextualised meaning and is consistent with the prior knowledge, context knowledge and knowledge of the communicator. SLA also requires an equally iterative process of negotiating and approximating the output prior to actually generating the edited output.

In this representation, the student starts to read the message on the bulletin board by beginning to interpret each word and word combination in terms of their prior knowledge, their knowledge of the particular communicator and the likely message content. Thus the student is making successive interpretations and reinterpretations of the gist of the message and particularly of the vocabulary items which may not be known or of which all meanings may not be known due to polysemy. This extended sampling of intakes and reiterations of negotiated meanings ultimately resolves itself into a most likely or highest probability interpretation of the input taking into account the domain of knowledge, the social context, and the relation with the communicator and a host of other contextual factors. Given that the comment or question has been resolved, the student now must negotiate a potential response to the query or comment. Again, the student negotiates among several alternatives and ultimately comes upon the general meaning of the output intended taking into account the multitude of contextual and social factors of the output. The next stage is to engage in successive negotiated constructions of the intended output that satisfies the condition of content, register, choice of idiom and lexical items. These successive iterations and constructions of the appropriate intended output include the choice of lexical items in L2 from the students' lexicon or external dictionaries. This will be highly individualised for each ESL student depending on the prior language history of the student and will have a high probability of correlating with the knowledge of the correct usage of these lexical items and their idiom and syntax. After successive constructions, the student will output the particular construction, which seems to be appropriate. It is this iterative process of extended throughput which consists of successive intakes from input or what Piaget called assimilation through equilibration and the progressive negotiation of meaning and subsequent construction of output that leads to maximal SAL or what Piaget called accommodation of schema.

What is unique to activity on the online interactive electronic bulletin board as opposed to interaction in a live seminar is that each student can individually control the speed of processing of their input and each individual word can be interpreted and then reinterpreted as one reads subsequent words which modify the context and appropriate meaning of the previous word(s) as the students progresses at their individual speed. Further, the meaning of unknown second language words can be approximated, guessed at or researched in a dictionary at the individual student's speed and in terms of the lexical and semantic knowledge as well as prior knowledge of each individual. This highly individualised timing and sensitivity of the bulletin board is a sharp departure from a traditional classroom where the message is either delivered too quickly or too slowly for the majority or all of the ESL students. Furthermore, on the electronic bulletin board, students can have unlimited throughput time to research words, to construct and reconstruct their best estimate as to the meaning of the input through taking successive intakes and subsequently when a meaning of input has been finally constructed to then begin to successively approximate and construct and reconstruct the intended output which is sensitive to the particular student or audience that they are communicating with. In a traditional seminar no such successive interpretations and constructions are permitted since the ESL student who requires such time is passed over and the seminar moves on without the ESL student. In addition, on the bulletin board the student can choose to read and respond to those items that of maximal interest unlike a classroom where the majority of input may be of no interest to the students yet they must passively endure listening to content that they have heard many times before with an equal lack of enthusiasm.

By empowering the student to choose to process those items of maximal interest a higher level of interest and cognitive arousal is maintained and students are more likely to construct appropriate interpretations and detailed output since the material is vital to them and they want to preserve their face with their colleagues and audience.

Consequently, it is proposed that it is this individualised and highly iterative nature of successive intakes of input and successive constructions of intended output of a virtual online seminar that can lead to maximal SLA. In addition because it is language learning through

content and socialisation of language learning students have a high social value to be motivated to understand the messages and to construct responses that are intelligent and well expressed in their second language. Moreover, unlike a traditional class, students cannot "tune out" since only their "extended throughput" maintains the communication link. In addition, because the power relation between teacher and student is modified so that the ESL students are in control, the responsibility is on them to contribute to the virtual seminar in a manner that renders their ESL characteristics as invisible as possible. Due to the opportunity for extended throughput these ESL students can assume the role of native English speakers and play that role unbeknown to the native speakers with whom they are communicating online rather than remaining in the limited role of ESL speakers who might more likely receive foreigner talk.

In summary, it is proposed that this interchange approximates the most likely sequence to produce SLA because it allows the ESL student to engage in intelligent discussion on topics that are of high interest. This normally would not be possible in a classroom since the ESL students' time needs for lengthy throughput would not be tolerated and the ESL student's anxiety and embarrassment would often prevent him from answering or even functioning in a regular classroom. Similarly a native speaker would not tolerate this communication experience due to impatience and frustration from inappropriate, lengthy and uneventful throughput while this same native speaker could enjoy a meaningful discussion with the same ESL student on a virtual electronic seminar via bulletin boards due to the reduction in anxiety and time demands that a bulletin board makes possible.

Another far reaching component of WebCT is that it allows the ESL student's initial attempts to assimilate the academic input by contemplating and reflecting (equilibration) on the input for perhaps minutes, hours or days and then to compose the output after their mental processing or equilibration has resolved the input by accommodation of their schema or prior knowledge.

All of the above components are essential to acquisition of ESL academic capacity because language must be used in an academic sense to assimilate and accommodate strategies and concepts in the second language. That is to say, I am proposing that cognitive academic language processing in a second language is most rapidly attained if the language is acquired as

a vehicle for processing academic concepts and strategies. This means that the second language should be used in a parallel way to the first language in solving problems and involved in thought as soon as possible in the acquisition history of the student. It is further hypothesized that by exploiting principles of language socialisation and language acquisition through content with such procedures as electronic bulletin boards that it may be possible for second language immersion programmes to produce students whose cognitive academic language processing approximates that of their native language. Although Canadian immersion programmes have been unable to achieve this, Carey (1991); it is possible that such immersion programmes which are supplemented with interactive bulletin boards such as proposed here could approximate that achievement more closely. Furthermore, since it is widely accepted throughout Asia that English is being acquired as a language of schooling, higher education and careers that Asian students may be more motivated to learn English for academic purposes than Canadians who frequently learn French for cultural enrichment with the knowledge that they will go to university in English. Therefore, I see great potential for ESL students gaining high levels of cognitive academic language processing if ESL classes exploit principles of the socialisation of language, teaching language through content and supplementing ESL schooling with online technology such as electronic bulletin boards starting as early as possible in their schooling. In particular, the rising educational potential of online seminars is based in part on several advantages that virtual seminars have over traditional classes. These would include unlimited ownership of the individualised time for constructing comprehensible input in a re-iterative manner that includes successive attempts to construct the comprehensible output that is specific to the particular audience, and the context. This provides for more thoughtful, individualised and complete learning of both the second language and the academic content. This innovation can provide an important supplement to traditional immersion programmes and can finally make it possible for immersion programmes to deliver their true potential.

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